

EXHIBIT C

UNITED STATES DISTRICT COURT
DISTRICT OF RHODE ISLAND

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WANDA OVALLES, INDIVIDUALLY	:
AND P.P.A A.O., AND WILSON OVALLES,	:
	:
Plaintiff,	:
	:
- against -	:
	:
SONY ELECTRONICS, INC., BEST BUY CO., INC.,	:
FOXCONN INTERNATIONAL, INC., AND JOHN	:
DOE CORPORATIONS 1-4,	:
Defendant.	:
----- X	

Case No. 3:14-CV-137-M-PAS

**DECLARATION OF
ROBERT KONINGSOR**

Robert Koningsor, under penalty of perjury, declares:

1. I am employed by Sony Electronics Inc. (“SEL”) as Manager of Technical Support Engineering. I submit this Declaration in opposition to “Plaintiffs’ Motion to Strike Objections and Compel Supplemental Discovery Responses From Sony Electronics, Inc.” (the “Motion”). I have personal knowledge of the facts and circumstances set forth herein.
2. I have been affiliated with SEL since 2003 and have worked exclusively with VAIO computers from 2003 through the present. Since 2006, I have served as the lead engineer at SEL responsible for VAIO repair operations. As part of my job responsibilities, I have created training materials to teach other SEL engineers how to repair VAIO models. At various times during the course of my employment, multiple individuals have reported directly to me regarding VAIO-related issues.
3. I am advised that the computer at issue in this litigation is a model Sony VAIO VPC-EB32FM/WI (“EB Series”) notebook computer. I am further advised that plaintiffs have not agreed to limit their discovery requests to EB Series model computers, but instead seek

information regarding all “similar computers,” which plaintiffs have defined as all VAIO models sold by SEL from 2000 through 2015.

4. Plaintiffs’ request is vastly overbroad, reaching numerous VAIO models that are not at all similar to the EB Series. In fact, virtually all of the VAIO models during this time period differed from the EB Series in terms of their dimensions, time and place of manufacture, weight and size specifications and—most importantly—the composition and functionality of their specific component parts that can affect the computer’s temperature.

5. SEL sold over 17,000 different models of VAIO computers from 2000 through 2015. These models included both desktop and laptop computers and came from at least five different original design manufacturers and four different Sony facilities. The specific computer purchased by plaintiffs was part of the EB Series, which was manufactured by Foxconn and sold by SEL from Spring 2010 through Spring 2011. The dimensions of the EB Series computers were 14.56" x 1.22" x 9.77" and they weighed 5.9 lbs. EB Series computers looked like this:



6. There were four different generations of VPC-EB models sold during the Spring 2010 through Spring 2011 time period. The numeral “3” in the model number VPC-EB32FM/WI shows that it was a third generation VPC-EB computer, which indicates that it was sold in Fall 2010. SEL sold approximately 700,000 VAIO model VPC-EB notebook computers from Spring 2010 through Spring 2011. By comparison, SEL sold approximately 3.3 million VAIO computers of all models in that same one-year time frame.

7. For marketing purposes, SEL grouped the EB Series with two other models that comprised the “VPC-E Series.” Specifically, the VPC-E Series computers included VPC-EA, VPC-EB, and VPC-EC models. In general, the VPC-E Series computers were low-end, high volume units designed for personal use. All of the VPC-E Series models were manufactured at a Foxconn facility in China and sold by SEL from Spring 2010 through Spring 2011. Each of the three VPC-E Series models had essentially identical design and component parts, but different dimensions. SEL sold an aggregate total of 1.3 million VPC-E Series notebook computers.

8. Although they were not part of the VPC-E Series, SEL also sold VPC-EE and VPC-EF model notebook computers from Spring 2010 through Spring 2011. The VPC-EE and VPC-EF models were lower-end than the VPC-E Series models, using an AMD chipset rather than the more expensive Intel chipset. The VPC-EE and VPC-EF models were manufactured by Quanta at a facility in China rather than by Foxconn. The VPC-E Series models and the VPC-EE and VPC-EF models all used the VGP-BPS22 battery pack model that was contained in the Ovalles computer and no other VAIO model computer used this same battery pack.

9. Comparing EB Series computers to computers outside of the VPC-E Series is, in many ways, an exercise in comparing apples to oranges. Indeed, identifying all of the differences in size, design, functionality and manufacture for each of the 17,000 VAIO models encompassed by plaintiffs’ request would be impracticable. However, focusing exclusively on the hardware and software components of a computer that present a risk of overheating reveals clear differences between the EB Series and other VAIO models with respect to those component parts.

10. Every hardware and software feature of a computer affects the computer's heat to some degree because all hardware and software features generate heat when operating. However, not all hardware and software features present an over-heating risk. A determination of which component parts of a computer raise a potential risk of over-heating can be made by reference to Underwriters Laboratories ("UL") guidelines. In particular, UL guidelines require that any component part of a computer that is capable of generating over 15 watts of energy must be tested to determine its risk of over-heating.

11. UL guidelines identify the following component parts of VAIO model computers that generate over 15 watts of heat: (1) the Central Processing Unit ("**CPU**"); (2) the Graphic Processing Unit ("**GPU**"); (3) the **Chipset**, *i.e.* the integrated circuit that manages the data flow between the processor, memory and peripherals; (4) the **Optical Drive**; (5) **Hard Drive**; and (6) the Liquid Crystal Display Backlight ("**LCD Backlight**"). Each of these features differed in significant ways between the EB series computers and other VAIO models manufactured from 2000 through 2015.

12. For purposes of demonstration, I will compare the EB Series computers to eight other VAIO models that were sold by SEL during the 2000 through 2015 time period. In particular, I have selected the following VAIO models (collectively, "Comparison Models"): (1) PCG-R505 notebook computers manufactured by Sony in 2001; (2) PCG-FRV notebook computers manufactured by Quanta in 2003; (3) VGN-T notebook computers manufactured by Sony in 2005; (4) VGINUX notebook computers manufactured by Sony in 2007; (5) VGN-TZ notebook computers manufactured by Sony in 2008; (6) VPCCW notebook computers

manufactured by Foxconn in 2010; (7) SVT131 notebook computers manufactured by Wistron in 2012; and (8) SVF11N notebook computers manufactured by Foxconn in 2014.¹

13. *First*, with respect to the CPU, the EB Series alone has 11 different CPU options that a customer could select. The maximum expected heat generating capacity of any particular CPU is measured in watts and is referred to as the CPU's thermal design power ("TDP"). Any given CPU also contains thermal sensors that monitor the temperature of the CPU. When the temperature of a particular CPU surpasses a certain threshold for a given period of time, the thermal sensors attempt to regulate the computer's heat or to turn it off completely. The temperature threshold and length of time necessary to trigger a reaction by the thermal sensors varies for CPUs with different TDP. In particular, the heat threshold increases as a CPU's TDP increases.

14. The Comparison Models have significantly different CPU options that generate different wattage TDP compared to the EB Series notebook computers. Each of the 11 CPU options for the EB Series had a TDP of 35 watts. In contrast, the PCG-R505 series contained three different CPU options, with TDP of 8.3, 24.6 and 27.5 watts respectively; the PCG-FRV series contained three different CPU options, with TDP of 57.1, 66.1 and 68.4 watts respectively; the VGN-T series had one CPU option with a TDP of 5.5 watts; the VGINUX series had two CPU options, each with a TDP of 5.5 watts; the VGN-TZ series had three CPU options, each with a TDP of 10 watts; the VPCCW series had five CPU options, each with a TDP of 35 watts; the SVT131 series had three CPU options, each with a TDP of 17 watts; the SVF11N series had one CPU option with a TDP of 7.5 watts.

¹ I selected these models as a representative sample of VAIO computers over the time period selected by plaintiffs. The differences identified between the Comparison Models and the EB Series are not exhaustive. Indeed, the other 17,000 VAIO models not included as Comparison Models may have additional differences from the EB Series not discussed in this Declaration.

15. These differences are significant because, as noted above, CPUs with different TDP have different capacity for generating heat and different thresholds for when a CPU's thermal sensors will attempt to shut the computer down. Notably, four of the Comparison Models contain a CPU with a TDP of 10 or fewer watts—a fraction of the 35 watt TDP for the EB Series CPUs. Another model, the PCG-FRV, contained a CPU with a TDP of nearly twice that of the EB Series. Given the magnitude of these differences, it is incorrect to suggest that the EB Series is similar to the Comparison Models with respect to heat characteristics.

16. *Second*, with respect to the GPU, the EB Series computers had three options: (1) Integrated Intel HM55, (2) ATI Mobility Radeon HD 5470 or (3) ATI Mobility Radeon HD 5650. The Ovalles model used the Integrated Intel HM55, which is internal (*i.e.* “integrated”) to either the CPU or chipset. The other two options available for the EB Series are external GPUs, meaning the GPU is not integrated into the CPU or chipset. Importantly, external GPUs add additional heat-generating physical components to a computer as compared to internal GPUs—specifically the external GPU itself and video memory chips, which both have the capacity to create heat. The exemplar VAIO models discussed above use different GPUs than the EB Series, some of which are integrated and some of which are external. Specifically, the PCG-R505 uses an Integrated Intel 815EM GPU; the PCG-FRV uses an ATI Radeon IGP 345M; the VGN-T uses an Integrated Intel 855GME; the VGUNIX and VGN-TZ use an Integrated Intel 945GMS; the VPCCW uses NVIDIA GeForce G310M or NVIDIA GeForce GT 330M; the SVT131 uses an Integrated Intel HD Graphics 4000; and the SVF11N uses Integrated Intel HD Graphics. Thus, the specific GPU differs as between the EB Series and every single one of the Comparison Models. Moreover, two of the Comparison Models² used an external

² PCG-FRV and VPCCW.

GPU whereas the Ovalles model used an integrated GPU. Accordingly, these two Comparison Models are particularly dissimilar from the EB Series with respect to the possibility of over-heating because they contain additional component parts that can generate heat—specifically the external GPU and video memory chips.

17. *Third*, the EB series computers used an Intel chipset, specifically the Intel HM55. None of the eight Comparison Models also used the Intel HM55 chipset. Moreover, one of the Comparison Models, PCG-FRV did not use an Intel chipset at all, but instead used ATI and ACER chipsets. Each generation of chipset has different features targeting the computer's performance and power consumption reduction, as well as the balance between performance and power consumption. Performance and power consumption are, of course, factors that affect a computer's temperature and its potential to over-heat. Accordingly, the fact that every Comparison Model uses a different chipset than the EB series means that every Comparison Model is different with respect to its potential for over-heating.

18. *Fourth*, with respect to the optical drive, the EB Series computers had both an internal DVD-RW drive and an internal BD-R (*i.e.* blu-ray) drive, both of which have the capacity to generate heat. Among the Comparison Models, four do not contain any internal DVD-RW drive—specifically the PCG-R505, VGINUX, SVT131 and SVF11N³ models. Moreover, two of the Comparison Models, the PCG-R505 and PCG-FRV models, contained internal CD drives, which are not included in the EB Series. Finally, only one of the Comparison Models—the VPCCW—contained an internal BD-R as the EB Series did.

19. Different optical drives require varying levels of “power draw” from the computer, *i.e.* the power the optical drive needs from the computer in order to operate. Optical

³ The VGINUX, SVT131 and SVF11N models do not contain any Optical Drive at all.

drives that contain writing capability, such as the DVD-RW contained in the Ovalles computer, require greater power draw than optical drives that lack writing capability; and CD drives generally require less power than DVD-ROM or BD-ROM drives. Optical drives with lower power draw (because of their lack of writing capability or otherwise) present a lower risk of causing a heat-related malfunction. As noted, three of the Comparison Models contain no optical drives at all, meaning those models have a lower probability of experiencing a heat-related incident than the EB Series. Similarly, the two Comparison Models that contain CD drives rather than DVD drives also have a lower chance of experiencing a heat-related incident than the EB Series.

20. *Fifth*, the hard drive options available on the VAIO models differed significantly over time. In particular, the hard drives of later models contained substantially greater memory than earlier models. The EB Series computers had three hard drive options: 320 gigabytes (“GB”), 500 GB and 640 GB. The Ovalles model used 320 GB. By contrast, for the four Comparison Models manufactured from 2001 through 2007⁴, none had a hard drive capacity greater than 60GB. The varying hard drive capacities in the Comparison Models indicate that multiple vendors and models were utilized during this time period and each one had distinctly different power draw requirements. Moreover, three of the Comparison Models⁵ used a solid state drive (“SSD”) rather than a hard disk drive (“HDD”). An SSD serves the same function as an HDD, but the internal components of an SSD are much different. In particular, an SSD contains no moving parts (thus, “solid state”), which reduces the likelihood of a breakdown.

⁴ PCG-R505, PCG-FRV, VGN-T and VGUNIX.

⁵ VGN-TZ, SVT131 and SVF11N.

Accordingly, the three Comparison Models using an SSD are less likely to experience a malfunction than the models using an HDD.

21. *Sixth*, with respect to the LCD Backlight, the EB Series computers contained two options: Cold Cathode Fluorescent Lighting (“CCFL”) or Light Emitting Diode (“LED”). The specific computer used by Ovalles used the LED backlight option. CCFL is a fluorescent light that requires high voltage to operate. CCFL also requires an inverter that converts low voltage into high voltage, which creates significant heat. LED, on the other hand, requires less voltage and does not use an inverter. Accordingly, models using the CCFL option, rather than the LED option, have a greater chance of experiencing a heat-related malfunction. The CCFL backlight option was generally used in models that pre-dated the EB Series, with later models shifting over to the less energy-intensive LED option. Among the Comparison Models, the PCG-R505, PCG-FRV and VGN-T models used the CCFL option while the other five Comparison Models used LED. Thus, the three Comparison Models using CCFL are not similar to the EB Series with respect to potential over-heating because the CCFL backlight and accompanying inverter are a major potential heat source that is not present in the EB Series.

22. There are also significant differences in the battery packs used by the EB Series models and the Comparison Models. Although a battery pack is not generally a heat-generating component part of a computer, I am analyzing battery packs because of plaintiffs’ allegation that the battery in the Ovalles model “exploded.” See Complaint ¶ 27. As noted earlier, only the VPC-E Series (which included the EB Series and two other models) and the VPC-EE and VPC-EF models used the VGP-BPS22 battery pack. No Comparison Models or any other VAIO models sold by SEL from 2000 through 2015 used this same battery pack.

23. The potential energy that a battery pack can release in the case of a failure is measured by its power capacity in milliamps (mAh). The VGP-BPS22 battery pack used in the EB Series models had a capacity of 3500 mAh. None of the Comparison Models used a battery pack that had this same capacity. To the contrary, three of the eight Comparison Models used battery packs that had less capacity than the VGP-BPS22⁶ while the other five Comparison Models used battery packs that had greater capacity than the VGP-BPS22.⁷ In a case of battery failure, a higher capacity battery is potentially more harmful than a lower capacity battery because it is capable of releasing more energy. Accordingly, the fact that every single Comparison Model used a battery pack with different capacity than the EB Series indicates that the potential harm from a battery failure is different in each of these VAIO models.

24. There are other differences between the EB Series and the Comparison Models with respect to battery packs. In particular, all VGP-BPS22 battery packs were manufactured by either Sony Electronics Wuxi (“SEW”), a Sony facility in China, or by Sanyo. Notably, every single one of the Comparison Models included a battery pack option in which the battery pack was manufactured by a company other than SEW or Sanyo. In particular, six of the eight Comparison Models included a battery pack option that was manufactured at Nagano TEC, a Sony EMCS Corporation facility in Japan.⁸ Four of the eight Comparison Models included a

⁶ PCG R505 used battery pack PCGA-BP2R with a capacity of 2600 mAh; VGNUX used battery pack VGP-BPS6 with a capacity of 2600 mAh; SVF11N used battery pack VGP-BPS42 with a capacity of 3200 mAh.

⁷ PCG-FRV used battery pack PCGA-BP2NX with a capacity of 4000 mAh; VGN-T used battery pack VGP-BPS3A with a capacity of 7650 mAh; VGN-TZ used either battery pack VGP-BPL11 with a capacity of 5800 mAh or battery pack VGP-BPX11 with a capacity of 8700 mAh; VPCCW used either battery pack VGP-BPS13 with a capacity of 4400 mAh or battery pack VGP-BPS13B with a capacity of 3600 mAh; SVT131 used battery pack VGP-BPS30 with a capacity of 4050 mAh.

⁸ PCG-R505, PCG-FRV, VGN-T, VGNUX, VGN-TZ and VPCCW.

battery pack option that was manufactured by Nagano Kogyo, a non-Sony entity.⁹ One of the Comparison Models, SVT131, used a battery pack manufactured by Samsung and one of the Comparison Models, SVF11N, used a battery pack manufactured by Panasonic. None of the Comparison Models used a battery pack manufactured by Sanyo and only a single Comparison Model¹⁰ had an option for a battery pack manufactured by SEW. In short, the identity of the manufacturer and place of manufacture for the battery packs used in the EB Series and the Comparison Models are entirely different.

25. In addition to differences in capacity and manufacturer, the battery packs contained in the Comparison Models differ from the VGP-BPS22 battery pack with respect to configuration. In particular, the VGP-BPS22 battery pack had a cell configuration of 2 Parallel 3 Serial (“2P3S”), meaning two parallel and three serial cells. Six of the eight Comparison Models had a battery pack option that used a configuration other than 2P3S.¹¹ Thus, only two of the Comparison Models used a battery pack with the same configuration as the EB Series, and even in those two cases the battery packs had differences from the VGP-BPS22 with respect to manufacturer and capacity.

26. In addition to these differences in the serial/parallel cell configuration, there are other notable distinctions with respect to the composition of the cells in the VGP-BPS22 battery pack as compared to the cells in the battery packs for the Comparison Models. The Ovalles model computer used model Sony US18650GS G6G cells (“GS G6G cells”), which

⁹ PCG-FRV, VGN-T, VGUNIX, VGN-TZ

¹⁰ VPCCW.

¹¹ PCG-R505 used battery pack with 2P4S configuration; PCG-FRV used battery pack with 2P4S configuration; VGN-T used battery pack with 3P2S configuration; VGUNIX used battery pack with 1P2S configuration; VGN-TZ used battery pack with 3P3S configuration. SVF11N used battery pack with 1P2S configuration.

were manufactured by Sony Energy Devices Corporation in Japan. Notably, five of the eight Comparison Models used battery packs containing cells that were manufactured by an entity other than Sony and therefore have little in common with the VGP-BPS22 battery pack in terms of cell characteristics.¹² Indeed, because these cells were manufactured by non-Sony entities, SEL has limited information about the features of the cells for these Comparison Models.

27. Moreover, cells in the Comparison Models that did use battery packs manufactured by Sony are substantially different than the GS G6G cells contained in the Ovalles model. The VGN-T series used a battery pack containing Sony US18650GR G8 (“GR G8”) cells and the VPCCW series used a battery pack containing Sony US18650GR G7 (“GR G7”) cells. As is apparent from the model numbers, both GR G7 and GR G8 cells were part of the US18650GR series, while GS G6G cells were part of the US18650GS series. The basic chemical compound of the US18650GR series was Lithium Cobalt Oxide while for the US18650GS series it was Lithium Transition Metal Oxide. This is a fundamental chemical difference that affects cell operation and potential for failure. Moreover, the US18650GS cell series is also distinct from the US18650GR cell series with respect to features like capacity¹³, maximum charging current¹⁴, the dimensions of positive¹⁵ and negative electrodes¹⁶ and the manufacturer of the cell protection mechanism¹⁷.

¹² The battery packs for PCG-R505, VGNUX and SVF11N used cells manufactured by Sanyo; the VGN-TZ used cells manufactured by Panasonic; the SVT131 used cells manufactured by Samsung.

¹³ GS G6G cells had a capacity of 2.20 Ah; GR G7 cells had a capacity of 2.40Ah; GR G8 cells had a capacity of 2.60Ah.

¹⁴ GS G6G cells had a maximum charging current of 4200 mA; GR G7 and GR G8 cells have maximum charging current of 5200 mA.

¹⁵ GS G6G cells have positive electrode length and width of 810 x 60.4mm; GR G7 cells have a positive electrode length and width of 676.5 x 59.0mm; GR G8 cells have a positive electrode length and width of 846 x 59.0mm.

28. In addition, even comparing the same exact cell series in different battery packs is not apples to apples because cells change over time. For example, the US18650GR cells have existed in some form since the 1990s and have undergone at least five significant changes since inception. For each such change, the cells were subject to new rounds of electrical, mechanical and environmental testing by UL, including tests for fire exposure, short circuiting, heating, temperature cycling and abnormal charging. The specific changes over time to the US18650GR cell were as follows: (1) on February 9, 1998 the cathode was improved, increasing cell capacity¹⁸; (2) on February 6, 2002 the anode material was improved, increasing cell capacity¹⁹; (3) on May 30, 2003 the anode material was improved again, increasing cell capacity²⁰; (4) on November 5, 2004 the capacity and maximum charge current of the cells was improved²¹; and (5) on July 24, 2006 the cells received an alternative positive thermal coefficient (“PTC”).²²

¹⁶ GS G6G cells have negative electrode length and width of 830 x 60.9mm; GR G7 cells have a negative electrode length and width of 809 x 59.5mm; GR G8 cells have a negative electrode length and width of 830 x 59.5mm.

¹⁷ The protection mechanism in GS G6G cells was manufactured by CYG Wayon Circuit Protection Co. Ltd.; the protection mechanism in GR G7 and GR G8 cells was manufactured by Tyco Electronics.

¹⁸ The cell received Fire Exposure Test and Abnormal Charging Test as a result of these changes.

¹⁹ The cell received Flaming Particles Test, Projectile Test, Crush Test, Impact Test, Heating Test and Short Circuit Test as a result of these changes.

²⁰ The cell received Flaming Particles Test, Projectile Test, Crush Test, Impact Test, Heating Test, Short Circuit Test and Abnormal Charging Test as a result of these changes.

²¹ The cell received Flaming Particles Test, Projectile Test, Crush Test, Impact Test, Heating Test, Short Circuit Test and Abnormal Charging Test as a result of these changes.

²² The cell received Abnormal Charging Test, Short Circuit Test, Crush Test, Impact Test, Projectile Test, Heating Test, Temperature Cycling Test, Altitude Simulation Test, Shock Test and Vibration Test as a result of these changes.

29. Finally, the various battery packs have differences with respect to the number of pins used in their sockets. Specifically, the EB Series models used a socket with 7 pins while four of the eight Comparison Models used either a 6 or 8 pin socket.²³ Battery pins impact the communication signals between the battery and the computer. Accordingly, the four Comparison Models that used 6 or 8 pin sockets differ from the EB Series with respect to the fundamental way in which the battery interacts with the rest of the computer.

30. As demonstrated above, there are significant differences between the EB Series models and every Comparison Model with respect to the hardware features identified in the UL guidelines as capable of generating more than 15 watts of heat. In addition to those differences, there are also important distinctions among the various models with respect to the way in which they mitigate heat. Indeed, each model has separate mechanisms and component parts that are responsible for reducing the computer's temperature in instances of potential overheating.

31. The most important parts of a computer for purposes of heat-mitigation are the fan and heat-sink. The heat-sink is a piece of metal that touches the potential heat-generating sources of a computer and conveys whatever heat is generated by those sources to the fan. The fan, in turn, expels the resulting hot air out of the computer. Thus, the fan and the heat-sink work in tandem to remove potentially excessive heat from a computer.

32. Each of the Comparison Models has a heat-sink and fan combination that is significantly different than what is employed in the EB Series. In particular, there are differences with respect to the size and shape of the fan, as well as the location of the fan within the computer. Similarly, there are differences with respect to the size and shape of the heat-sink

²³ PCG-R505 (eight pins); PCG-FRV (eight pins); VGN-T (six pins); SVF11N (six pins).

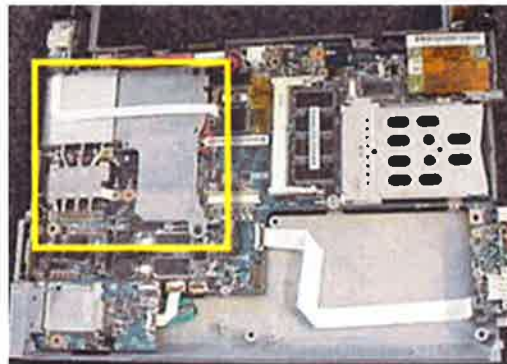
in each of the Comparison Models, as well as the positioning of the heat-sink with respect to both the fan and the heat-generating sources of the computer.

33. In order to demonstrate the differences in the heat-sink and fan for each computer, I present below a picture of this part of the computer for the EB Series and each of the Comparison Models:

EB Series:

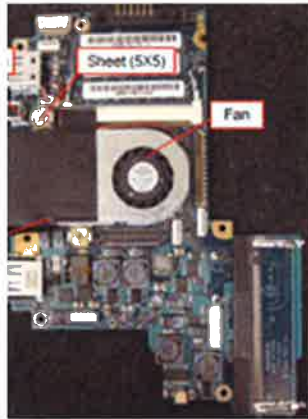


PCG-R505:



PCG-FRV:

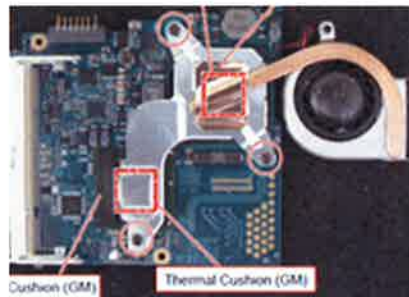




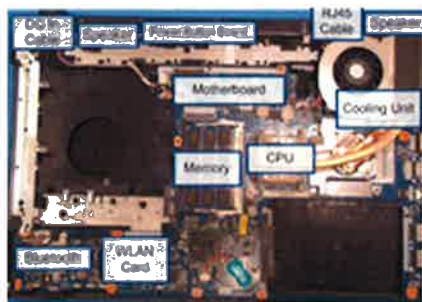
VGN-T:



VGNUX:

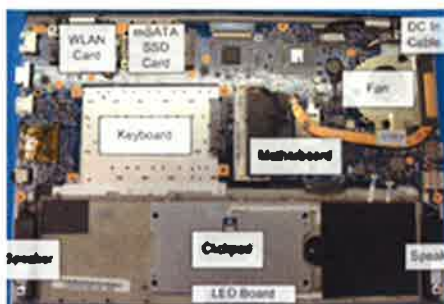


VGN-TZ:



VPCCW:

SVT131:



SVF11N:



34. As indicated by the above photos, the EB Series and Comparison Models—and, indeed, all 17,000 VAIO models sold by SEL from 2000 through 2015—also differ with respect to their “chassis”, *i.e.* the frame that contains all of the computer’s component parts. Due in part to these chassis variations, VAIO models also differ significantly with respect to their “form factor”—*i.e.*, the size, shape, weight, and arrangement of internal component parts. Such form factor differences are significant because even where different model computers use identical heat-generating or heat-mitigating component parts, the placement of these parts relative to one another impacts how a computer generates and/or expels heat. For example, if two models VAIOs have the same size fan and the same CPU but the distance between the fan and CPU differs in those two computers, the computers will differ with respect to how they mitigate heat. In particular, such a distance difference would likely impact the computers’ fan rotational speeds and the functionality of their heat-sinks, both of which are integral to a computer’s heat-mitigating process. Accordingly, the dissimilarities between the EB Series and the Comparison Models identified in this Declaration actually understate the differences among

the various VAIO models, because even where Comparison Models use the same component parts as the EB Series, the Comparison Models still have distinct arrangements of those component parts within their chassis.

35. In sum, there are significant differences between the EB Series and each of the eight Comparison Models with respect to virtually every heat-generating and heat-mitigating feature of those computers. If I were to expand my comparison to include additional VAIO models other than the Comparison Models, there would undoubtedly be other heat-related differences among the approximately 17,000 VAIO models encompassed by plaintiffs' discovery requests.

I declare under penalty of perjury that the foregoing is true and correct. Executed on November 20, 2015.



Robert Koningsor